

FIG. 0

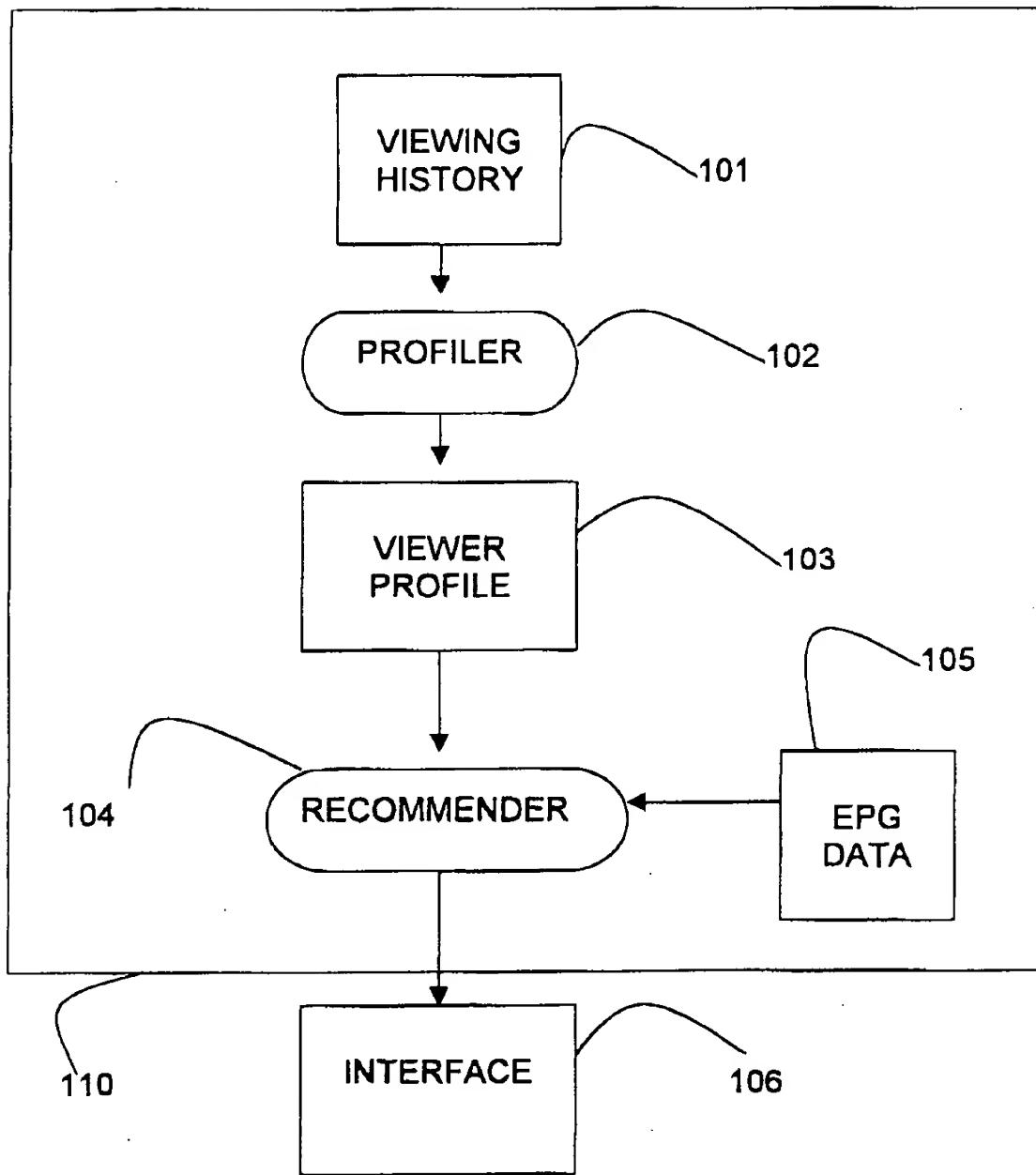


FIG. 1

Let S be all shows not watched in the 7 days prior to and including the current day

Let N be 1.

For each TV show watched

 Enter the watched show in the viewing history as a positive example

 Select a subset S of shows not watched

 Select at random N shows from set S and enter them in the viewing history as negative examples. If an explicit viewer profile is available, then the random selection can be biased away from shows "liked" and towards shows "not liked."

Figure 2. Pseudo code for the Viewing history generator

Table 1. The key fields

Field	Description
\$date	Yyyymmdd
\$air_time	hhmm (e.g. some value in the range 0000-2359)
\$station_sign	4 characters (e.g. WABC)
\$title	120 characters (e.g. "Antiques Roadshow")
\$desc	120 characters (e.g. "Skully visits alien spacecraft")
\$genre	20 characters (e.g. "Science Fiction")
\$actors	120 characters (e.g. "John Doe, Jane Doe")
\$directors	120 characters (e.g. "John Hitchcock")
\$hosts	120 characters (e.g. "John Host")
\$producers	120 characters (e.g. "Jane Rich, John Moneybags")
\$writers	120 characters (e.g. "John Poet")

FIG. 3

total programs	55	55
daytime Mon2100	5	0
daytime Mon2200	6	1
daytime Tue2200	4	1
daytime Wed2000	4	0
daytime Wed2200	6	0
station WABC	10	1
station WNBC	30	0
station WNYW	13	0
title 20/20	5	0
title Dateline NBC	11	0
title MLB Playoffs	10	0
title Paid Programming	0	5
genre Animated	0	4
genre Baseball	13	1
genre Comedy	4	8
genre Football	4	0
genre Magazine	18	0
genre News	22	4
genre Reality	4	1
genre Situation	3	5
genre Sports Event	15	2
genre Talk	18	3
desc Ally	6	0
desc If	6	0
desc McBeal	4	0
desc Alternate	5	0
desc Game	4	0
desc Lineup	5	0

desc local	4	0
desc necessary	6	0
desc primetime	5	0
desc programming	4	0
TV rating TV14	6	3
TV rating TVG	0	4
sex rating N	51	52
language rating N	51	50
advisory Adult Situations	0	8
advisory Language	0	5
MPAA rating R	0	4
star rating **+	0	5
program language English	51	52
country of origin United States	0	7
episode title Game	7	0
episode title League	4	0
episode title New	5	0
episode title Series	9	0

FIG. 4

FIG. 5A

$$T = k(C+) + k(C-)$$

$$P(C+) = k(C+)/T$$

$$P(C-) = k(C-)/T$$

FIG. 5B

$$P(fil|C+) = k(fil|C+)/k(C+)$$

$$P(fil|C-) = k(fil|C-)/k(C-)$$

FIG. 5C

$$P(C+|x) = P(x|C+)P(C+)/P(x)$$

$$P(C-|x) = P(x|C-)P(C-)/P(x)$$

Where

$$P(x) = P(x|C+)P(C+) + P(x|C-)P(C-)$$

$$P(x|C+) = \prod_{i=1}^n P(f_i|C+)^{x_i} (1 - P(f_i|C+))^{1-x_i}$$

n = number of features in profile

f_i = the i^{th} feature in the profile

$x = \{0,1\}^n$ is a bit string of length n , where the i^{th} bit indicates the presence (1) or absence (0) of feature f_i in the program